

**EU Energy
Commission's perspective 2030
Vision of (for) the future**

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General context of the energy policy constraints of the EU

- **What will be futur needs ?**
- **What is the most efficient market structure ?**
- **How to meet the environmental challenges?**
- **What is the right energy price ?**
- **How to secure external energy supply? Or in other terms do world reserves can supply EU needs in the global growing energy demand?**

The Commission's scenario 2030 gives some answers through the analysis of the main energy drivers .

■ Demand drivers

GDP, demography, structure of the economy, level of domestic prices, sociology, public opinion etc..

- EU energy needs

Translation of these elements on energy demand projections

■ Supply drivers

- Internal energy drivers

Domestic reserves and production, relative prices and investment decisions, domestic market rules

- External energy drivers

Geopolitical situation, globalization of the world economy

- What about policy drivers ?

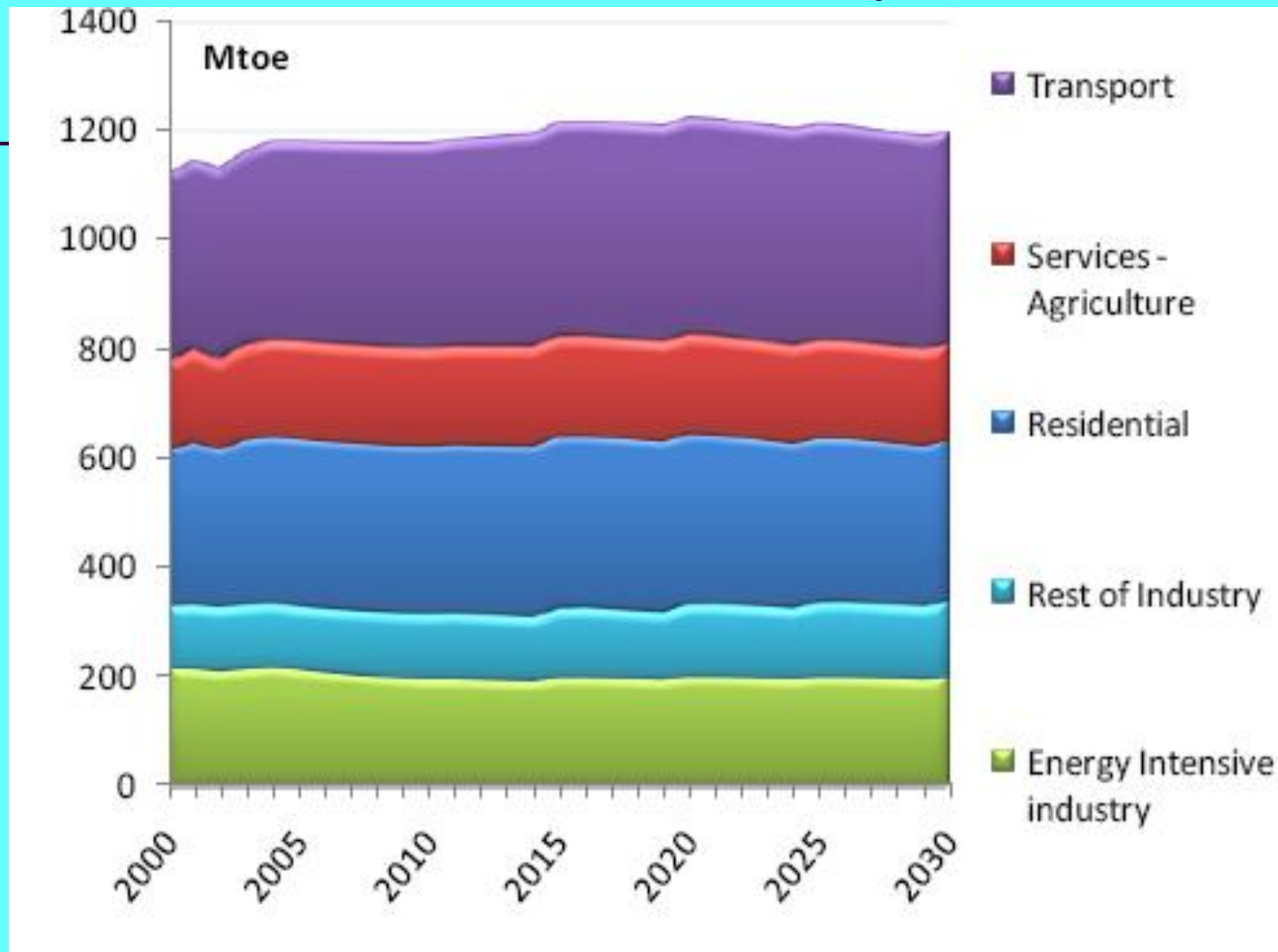
EU Energy scenarios

- Energy modelling to 2030 with PRIMES for the EU and all Member States individually provides different types of scenarios (but not forecasts):
 - Baseline showing effects of implemented policies till April 2009, i.e. no assumption on achieving targets (stock-taking exercise);
 - Reference scenario showing effects of agreed policies, including achieving of legally binding targets on 20% RES and 20% GHG reduction for 2020).

Macroeconomic background

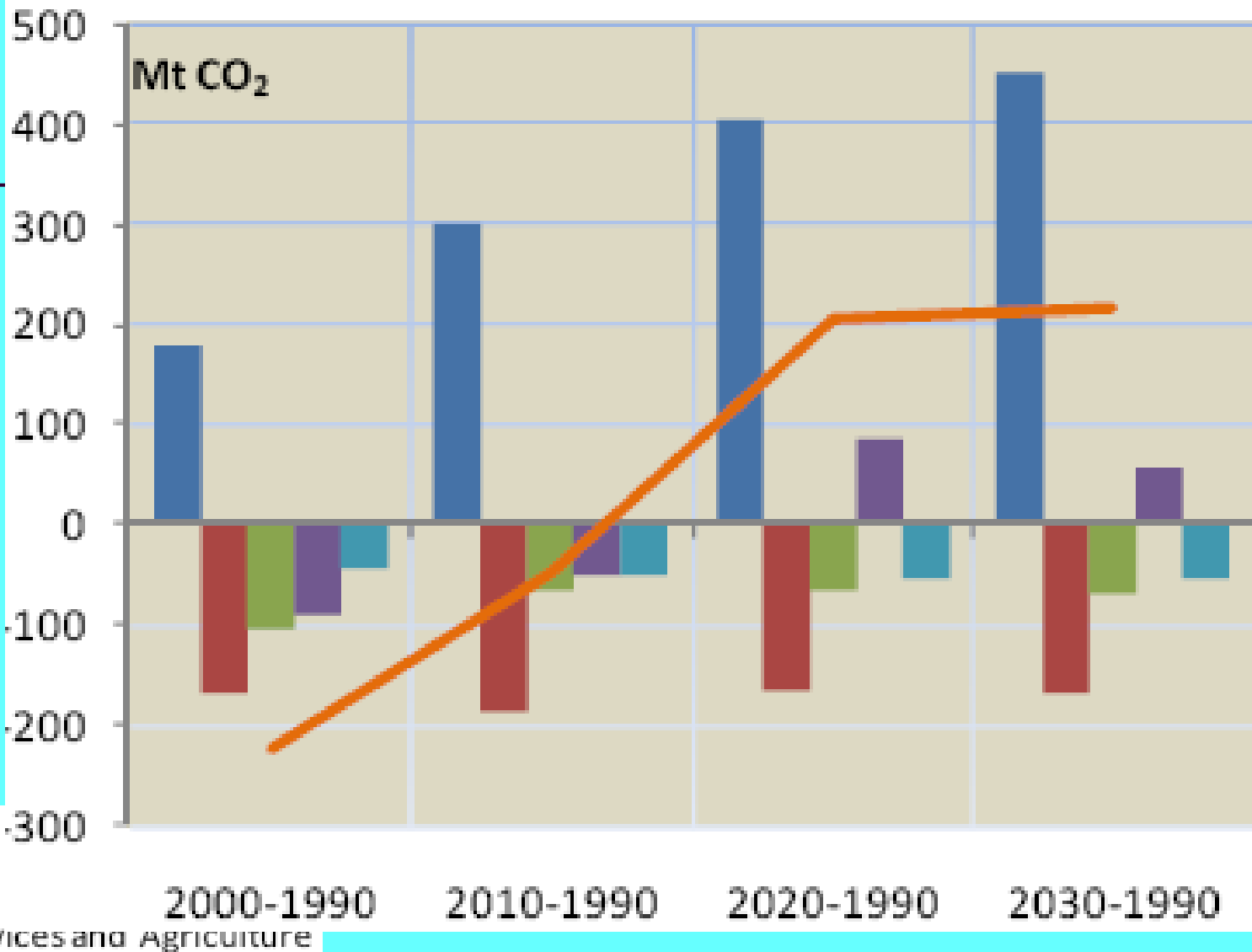
- Demographic projections based on EUROPOP2008 convergence scenario from Eurostat
 - GDP projections for the short term (2009-2010) mirror economic forecasts from DG ECFIN of May 2009 while medium and long term projections follow the 2009 Ageing Report
 - Macro projections reflect the recent economic downturn, followed by sustained economic growth resuming after 2010
 - Average annual growth 1.7% pa (2.2% in pre-crisis Baseline) over 2005-2030
 - **The recent economic crisis has long lasting effects leading to a permanent loss in GDP (level in 2030 10% lower than in scenarios done before crisis).**
- **Have EU citizens lost permanently as well 10% of their quality of life ?**

Our future needs in the EU 27 by economic sectors



Growing dependance of our economy for fuel transport, electricity an heating/cooling

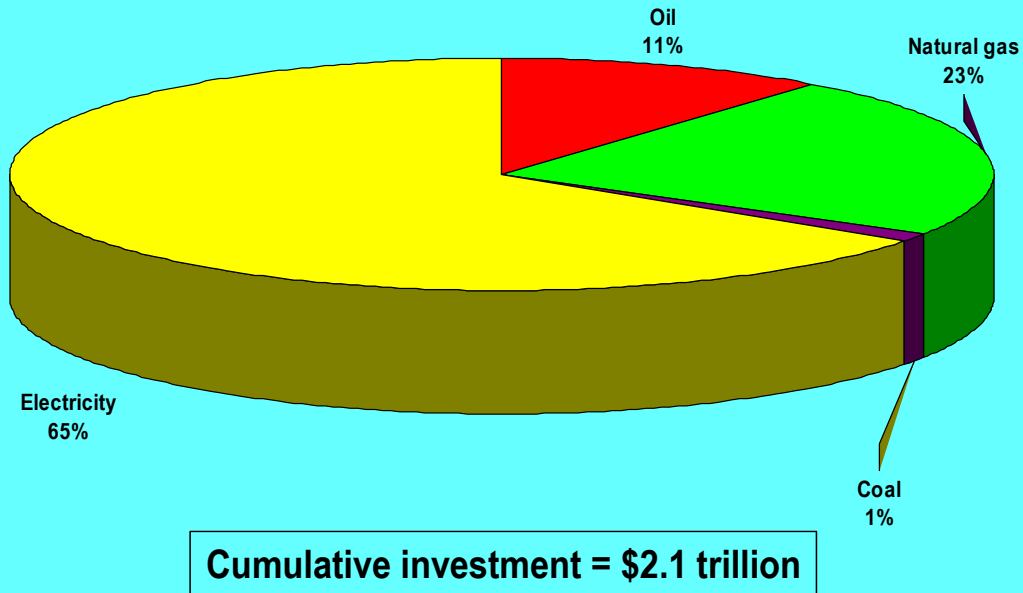
**CHANGE OF
ENERGY-
RELATED CO2
EMISSIONS
SINCE
1990**



**Transport and power generation
week points**

Investment needs are conditions right?

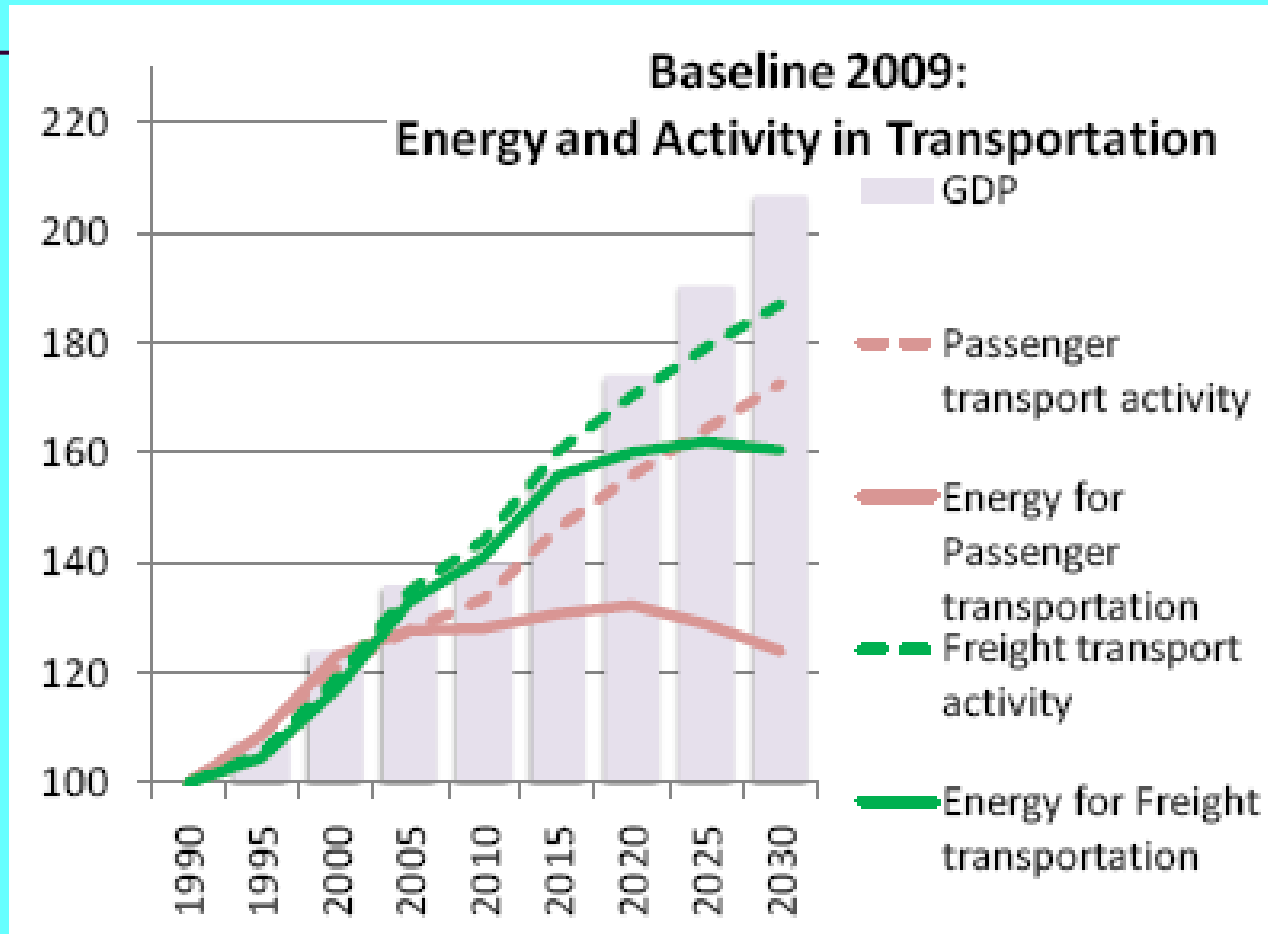
Europe Energy Investment by Fuel 2001-2030



Source IEA

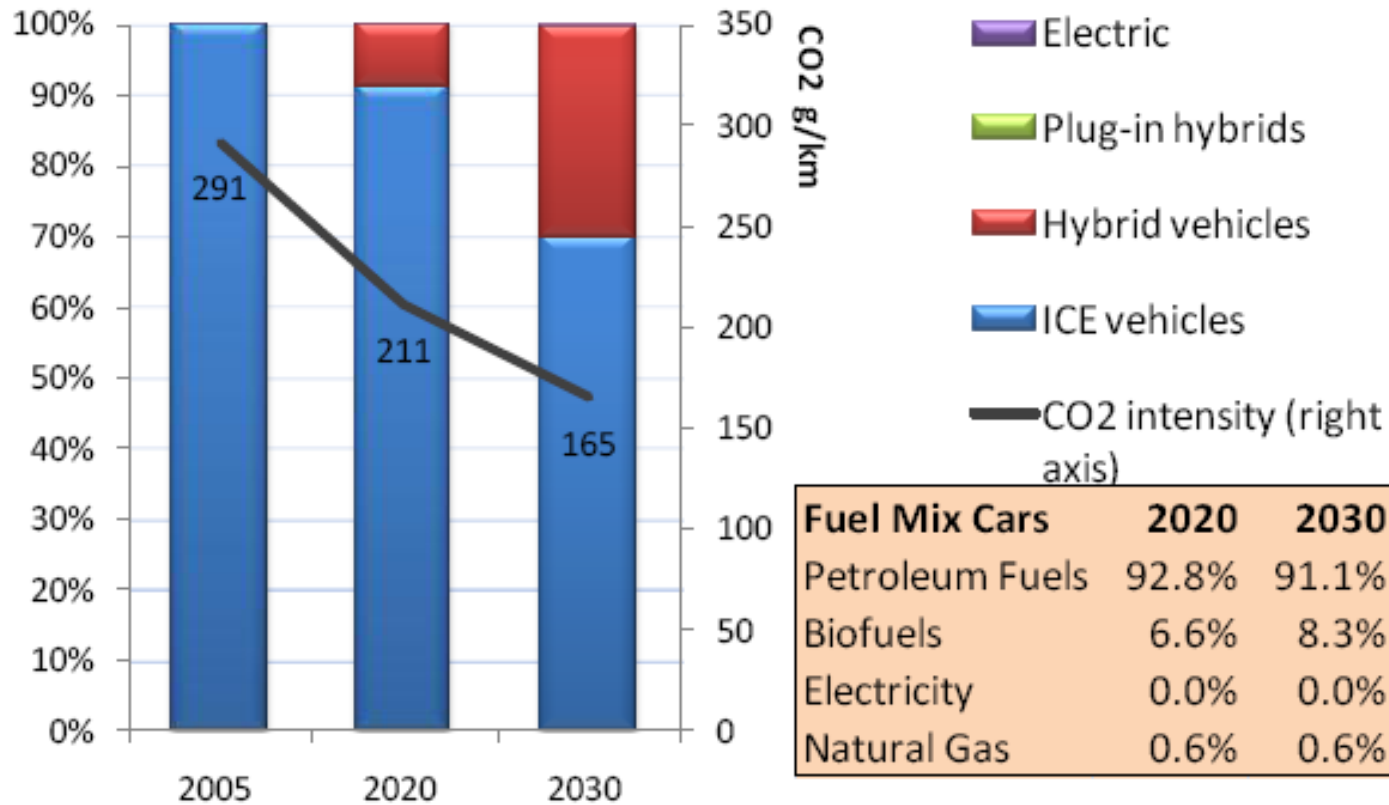
Electricity dominates European energy investment – even more so if investments in fossil fuels chains to supply power plants are included

Evolution of the transport sector

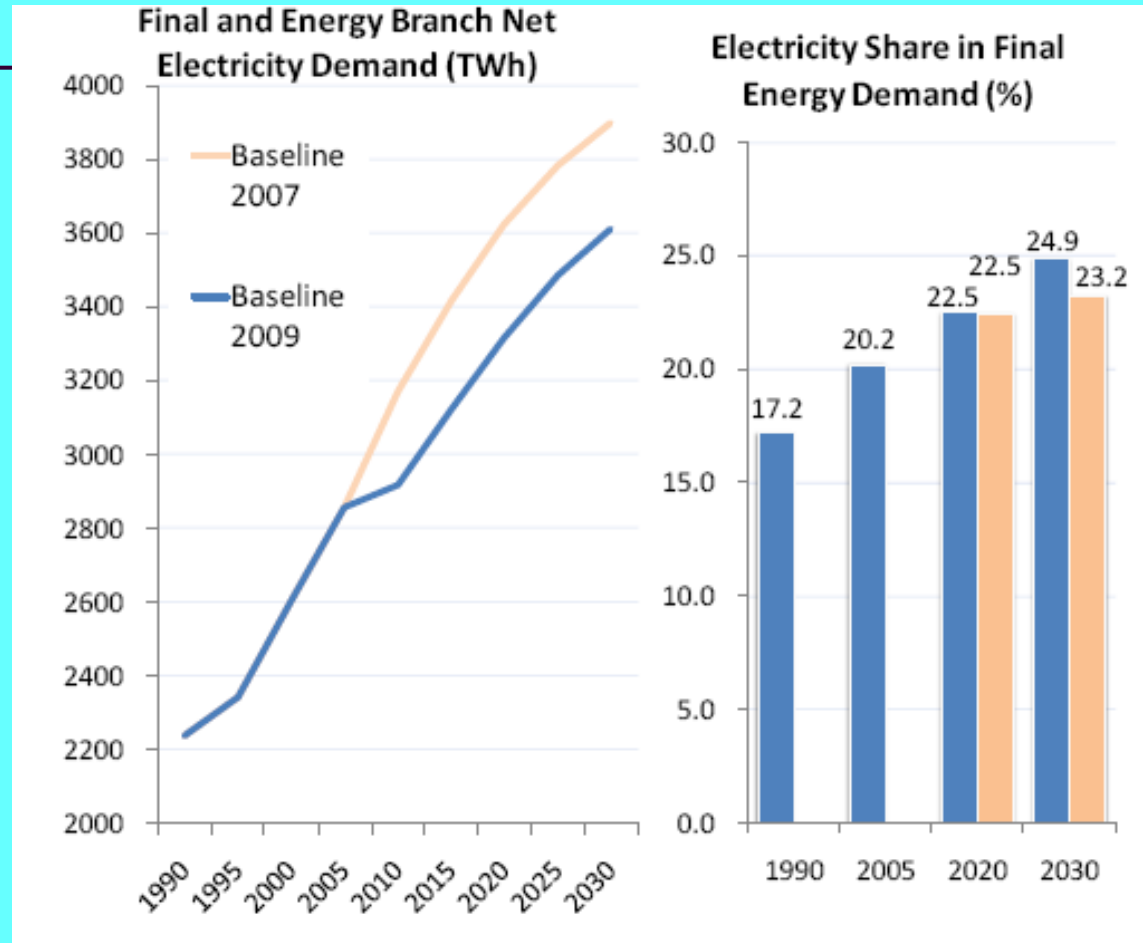


Transport activity shows the integration of MS economies and globalization of the world economy

Car revolution



Growing demand for electricity

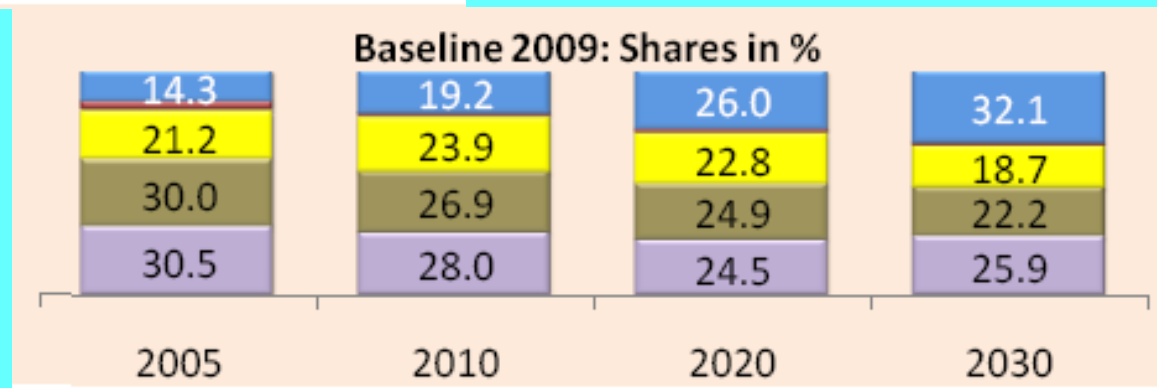
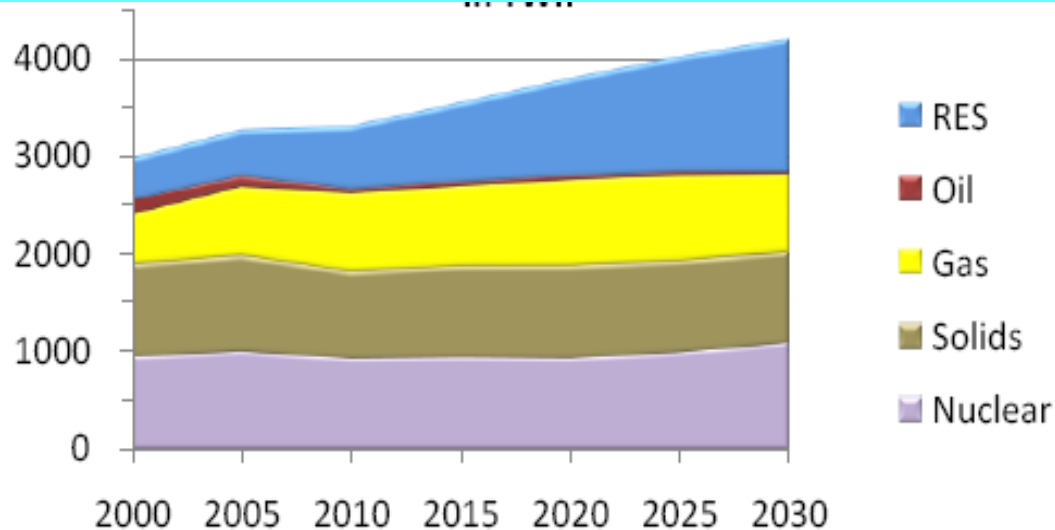


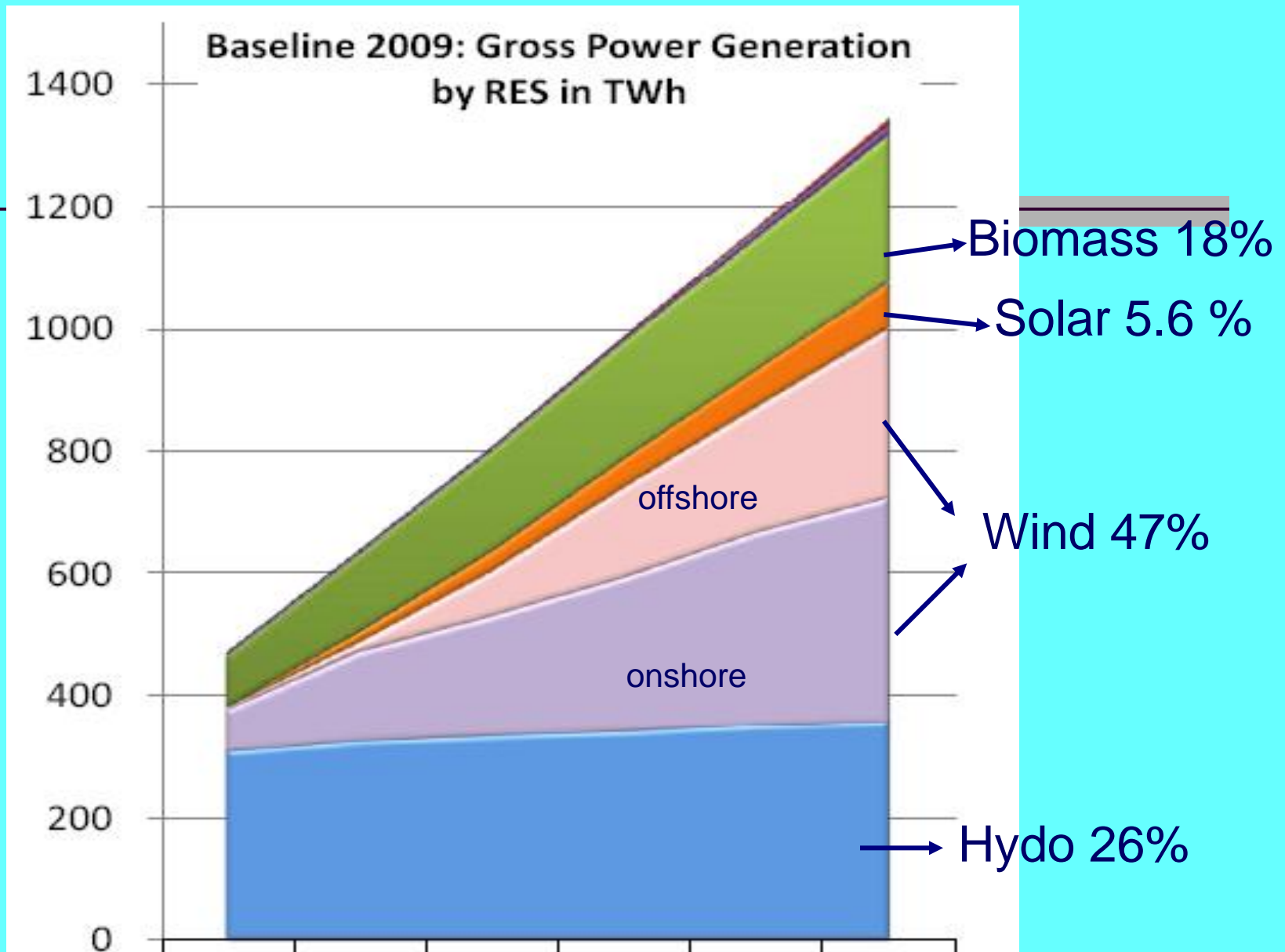
Growing dependence of the EU economy on electricity

What about: investments, pollution, imports, costs effects?

Structure of power generation

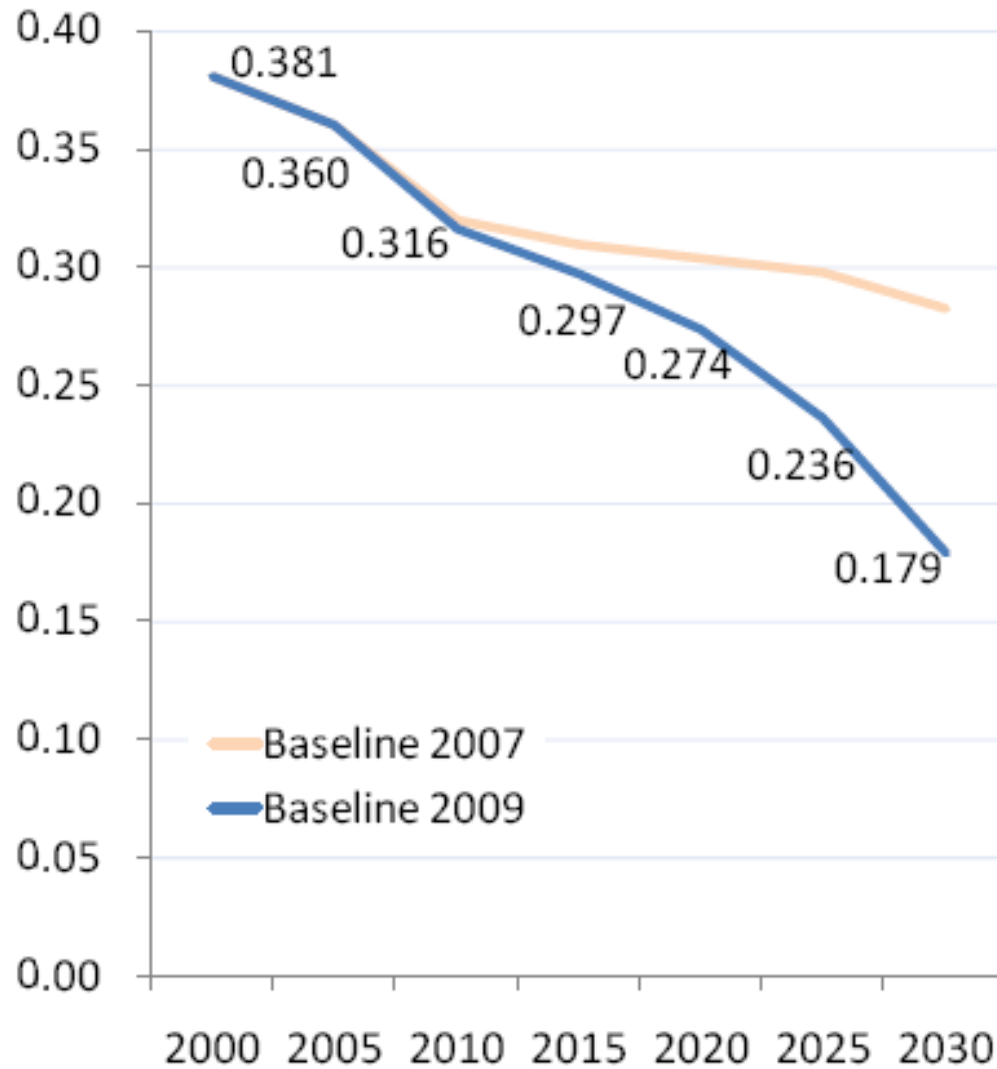
in TWH: growing RES in relative and absolute terms





« Renewable energy snapshot » (juil 2010): in 2009 renewable investments in power generation represent 62% of total investments in power generation.

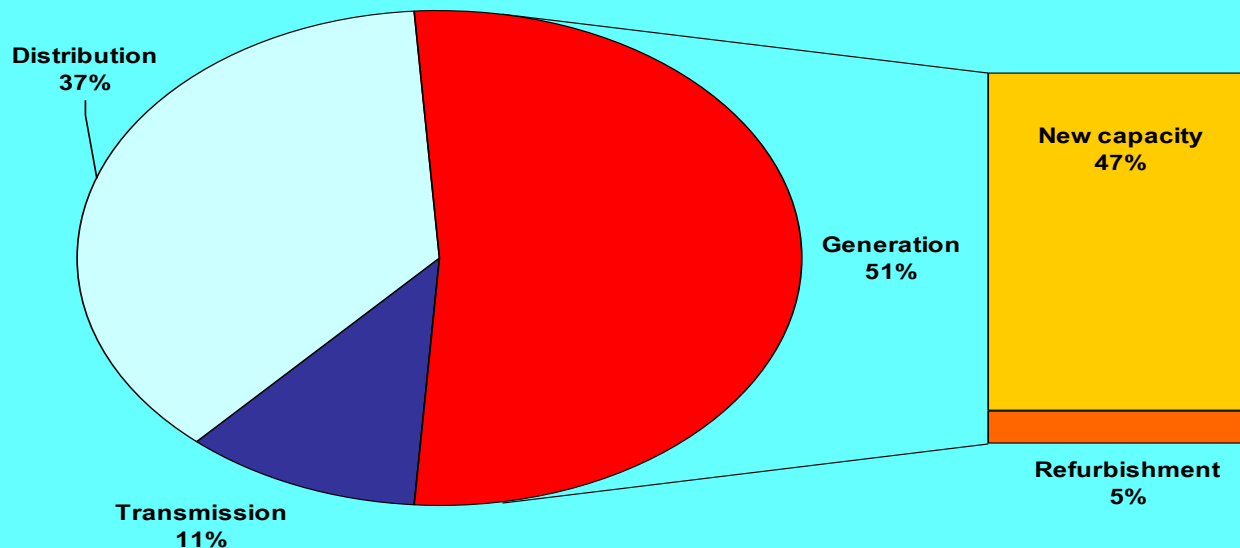
Carbon Intensity of Power Generation (tCO₂/MWh)



Electricity investment

are prices high enough for investors?

Europe Electricity Sector Investment

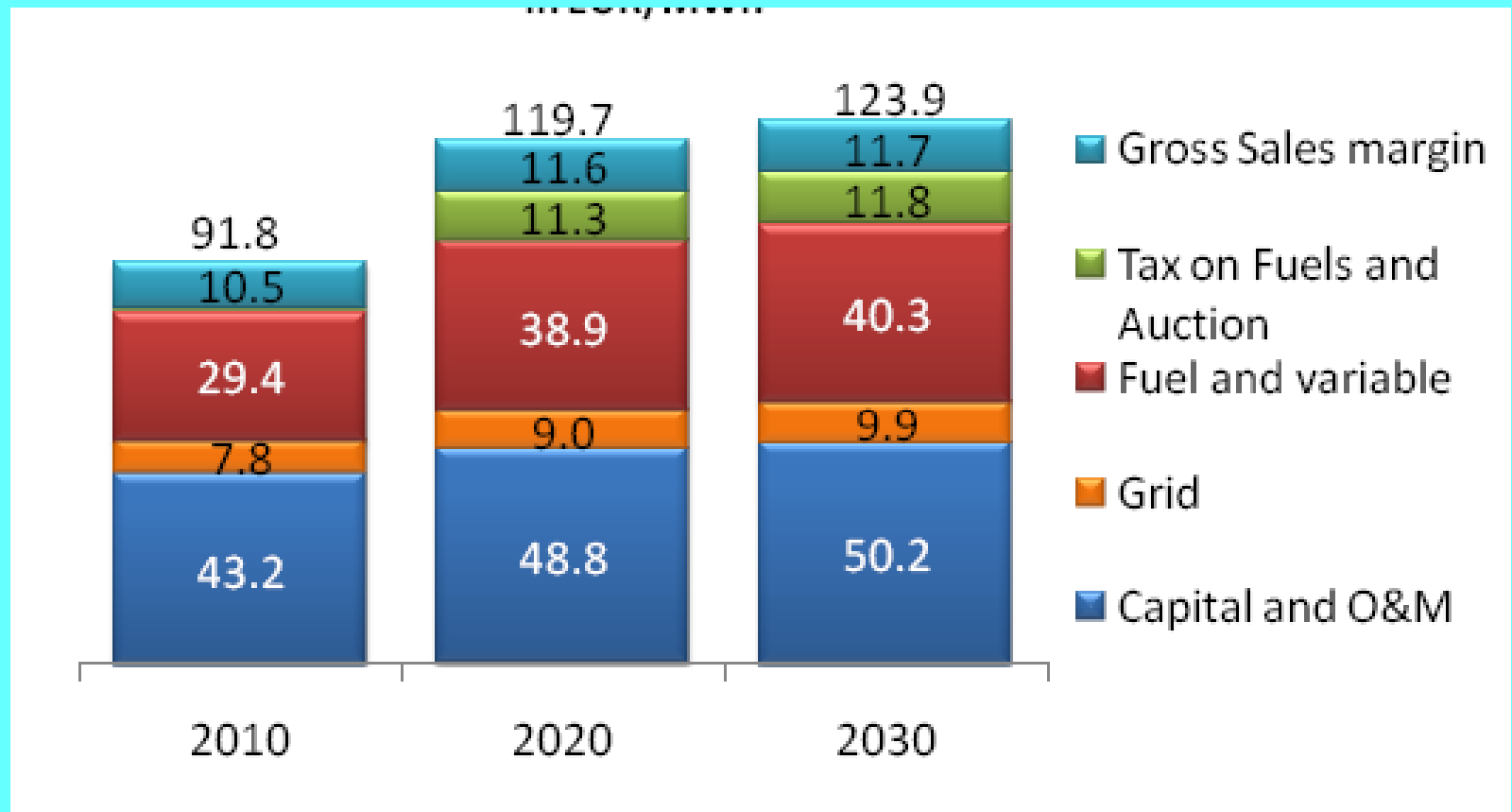


Source - IEA

Cumulative investment 2001-2030 = \$1.35 trillion

Generation – mostly new capacity – will absorb around half of total electricity-sector investment

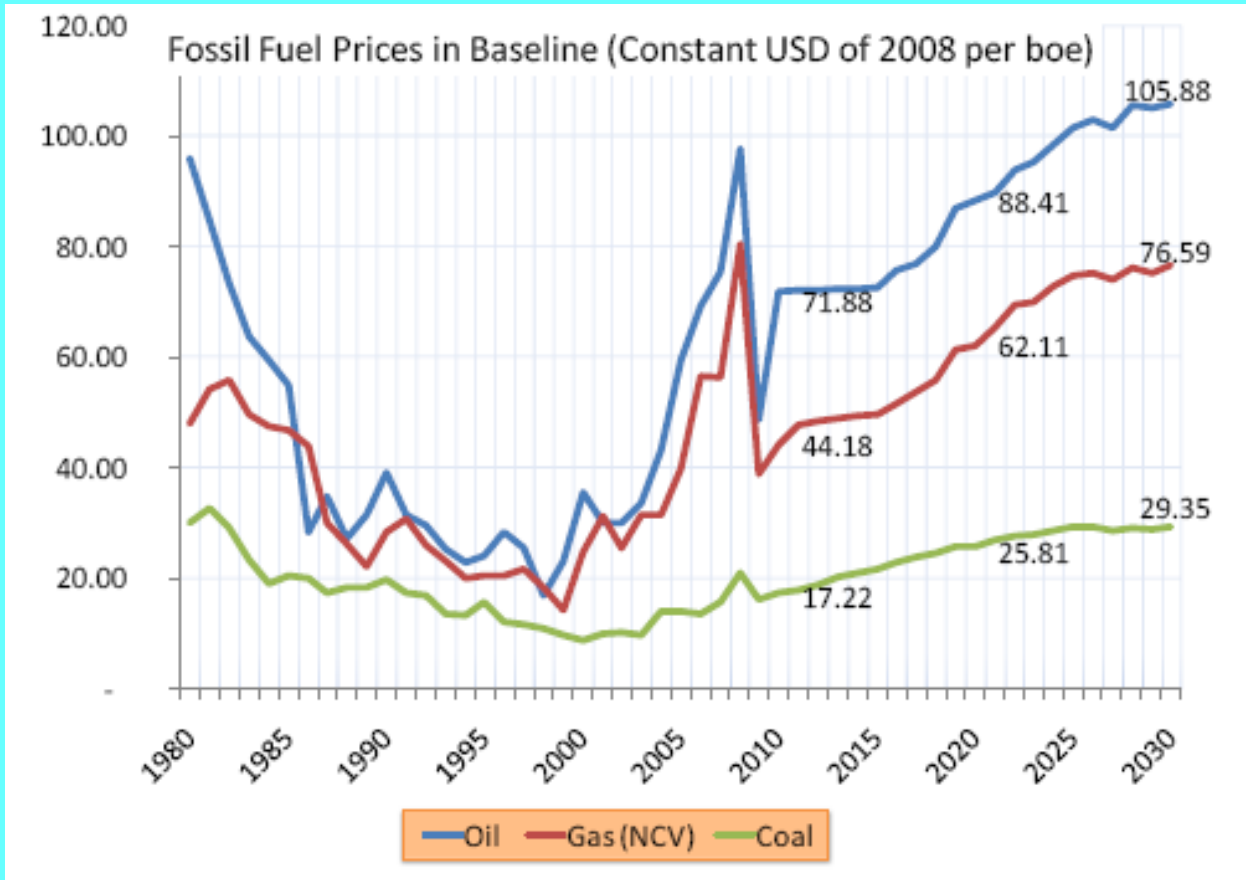
Structure of electricity costs euros/MWh



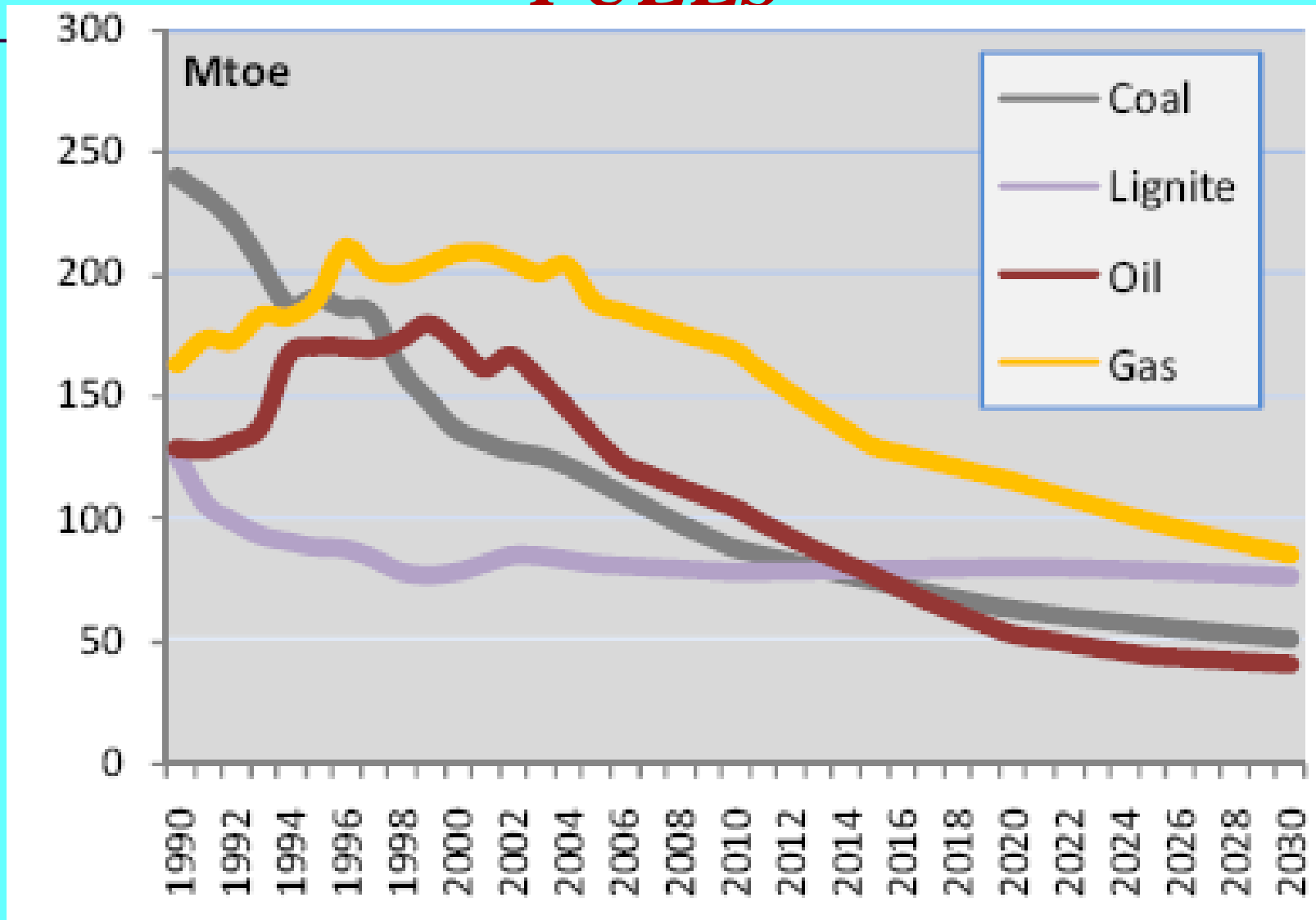
Huge increase in prices

Share of fuel cost stable: 32 %

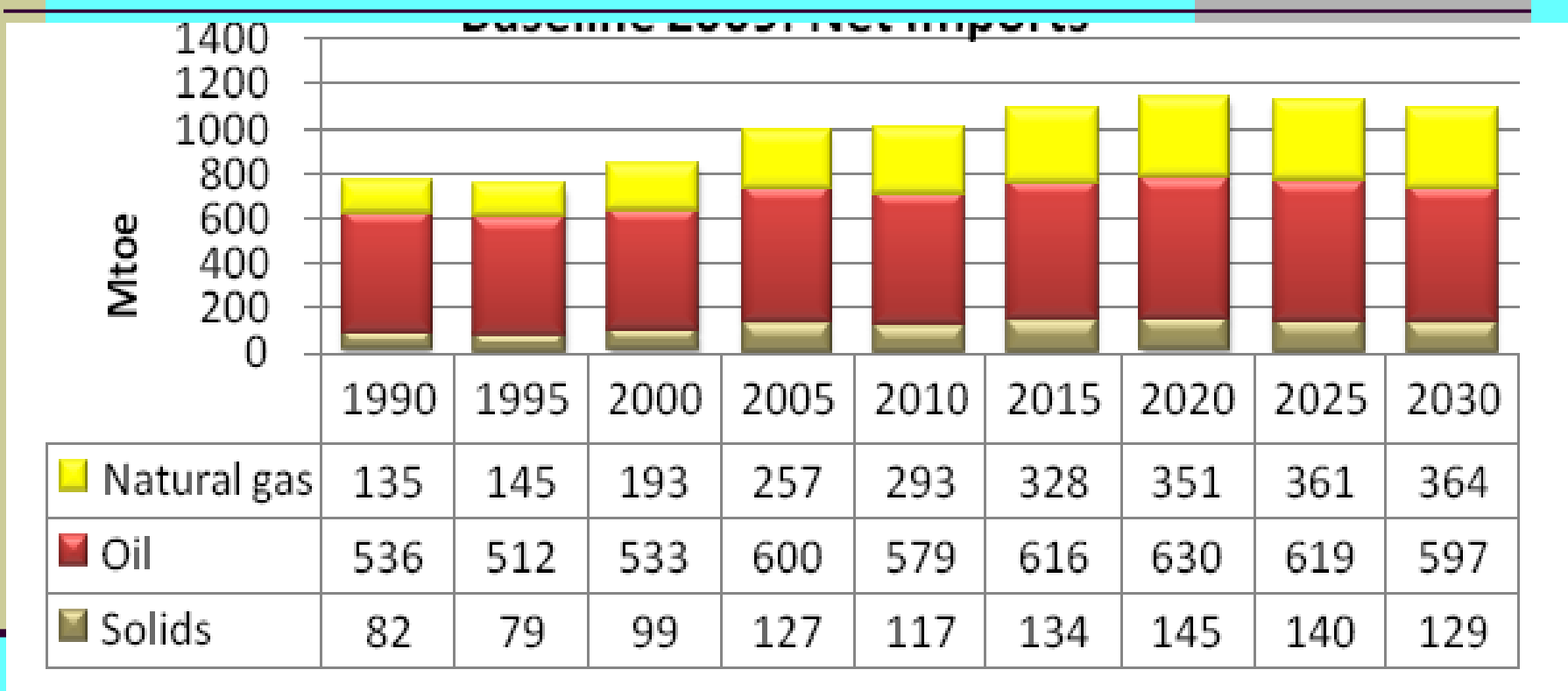
World Fossil Fuel prices



INDIGENOUS PRODUCTION OF FOSSIL FUELS



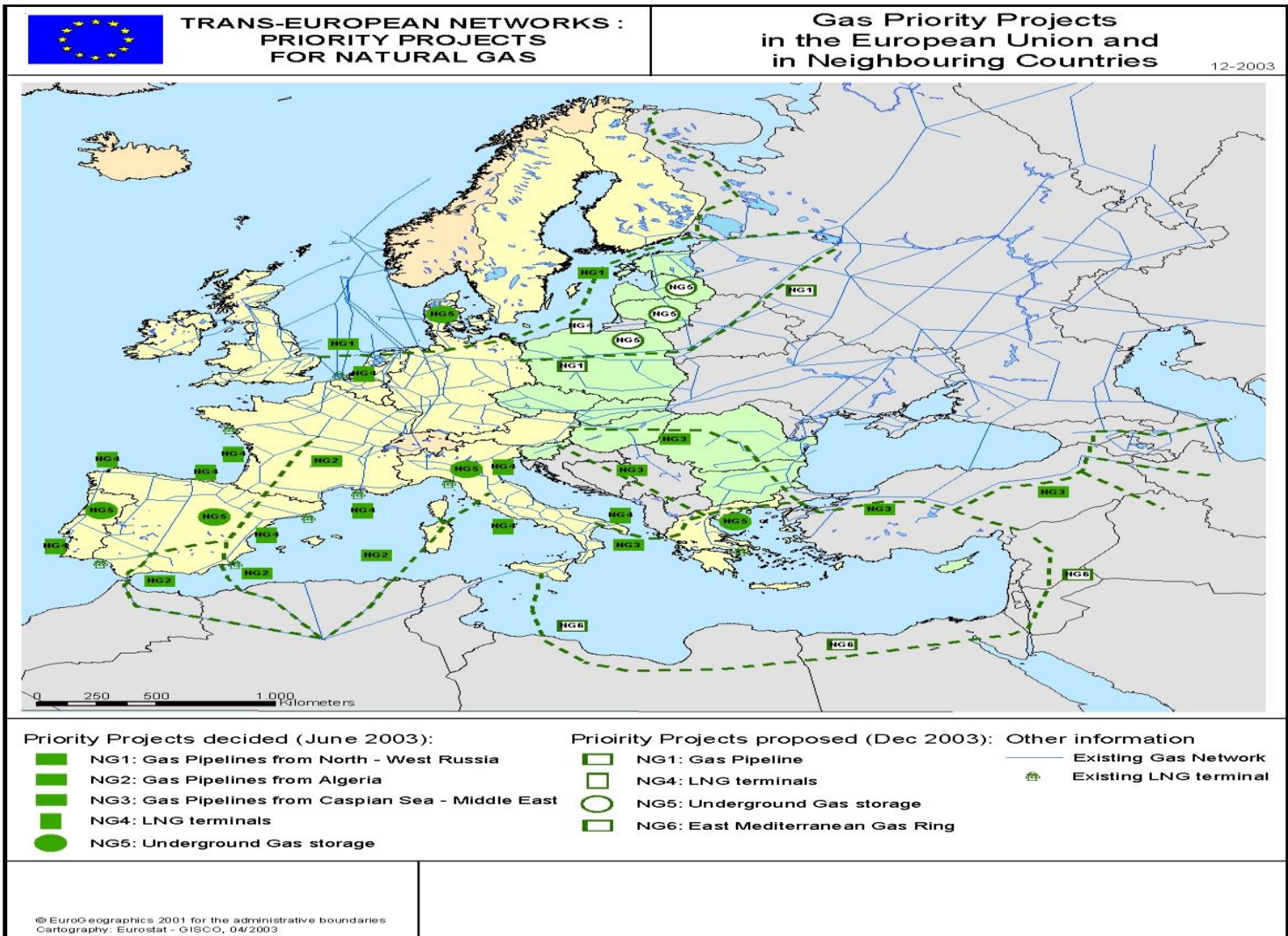
Fossil fuels net imports



- Gas increasing imports for power and heating purposes
- Uranium not appearing in the table

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- Imports of energy products cost about 700 euros per year per capita in the EU

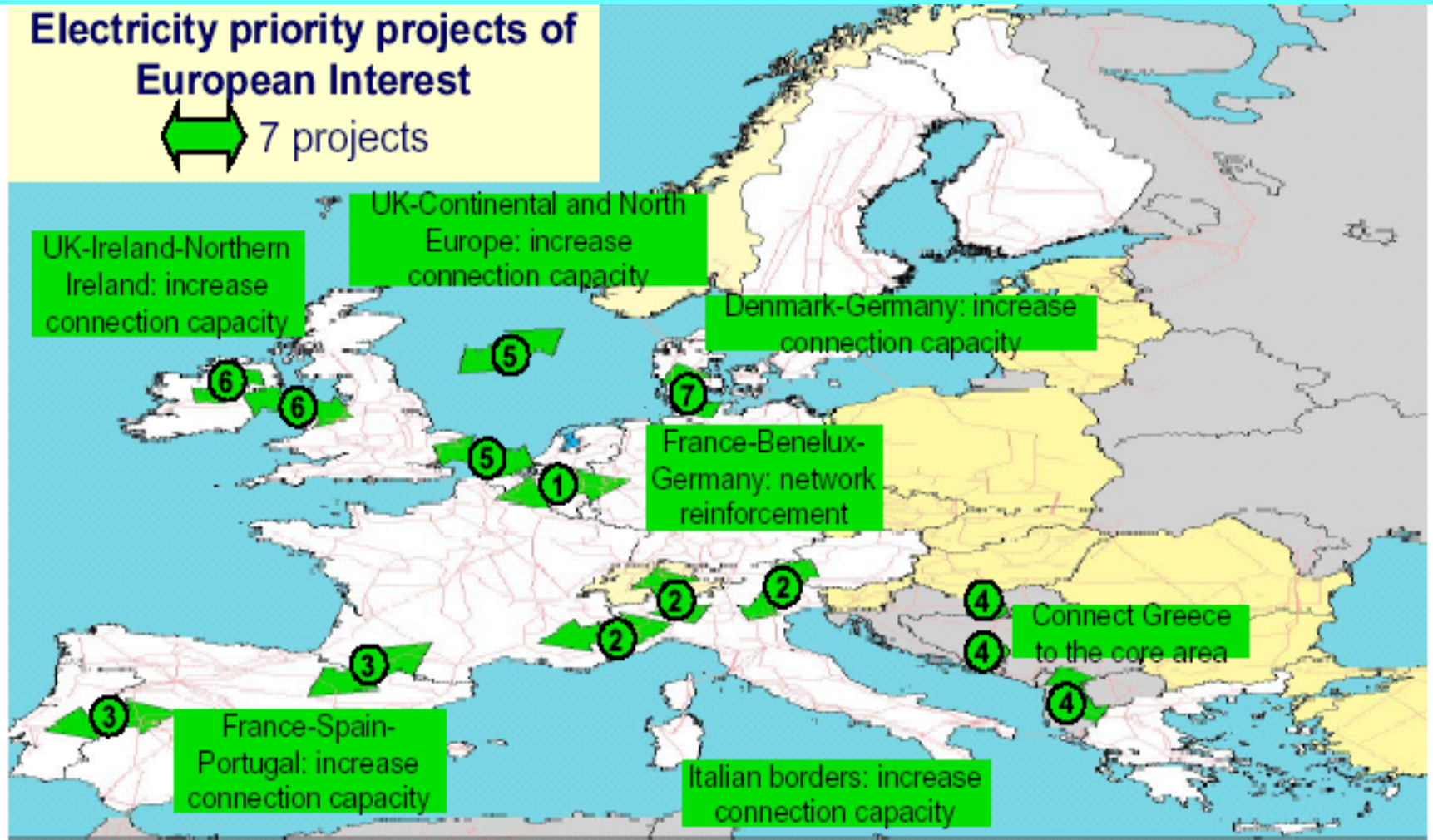
Growing electric and gas market require improved infrastructure: TEN E - Gas



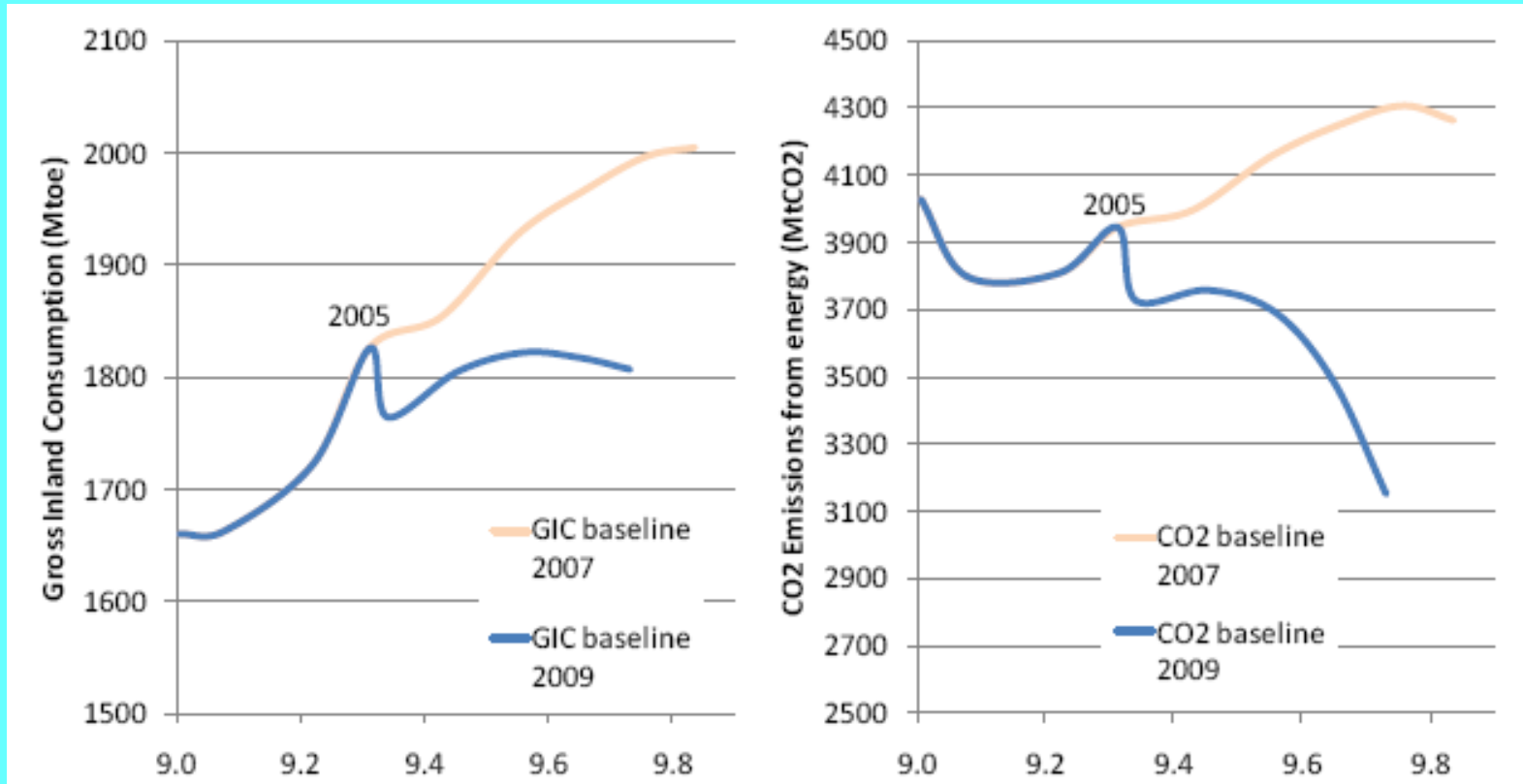
TEN-E electricity priority projects

Electricity priority projects of European Interest

↔ 7 projects

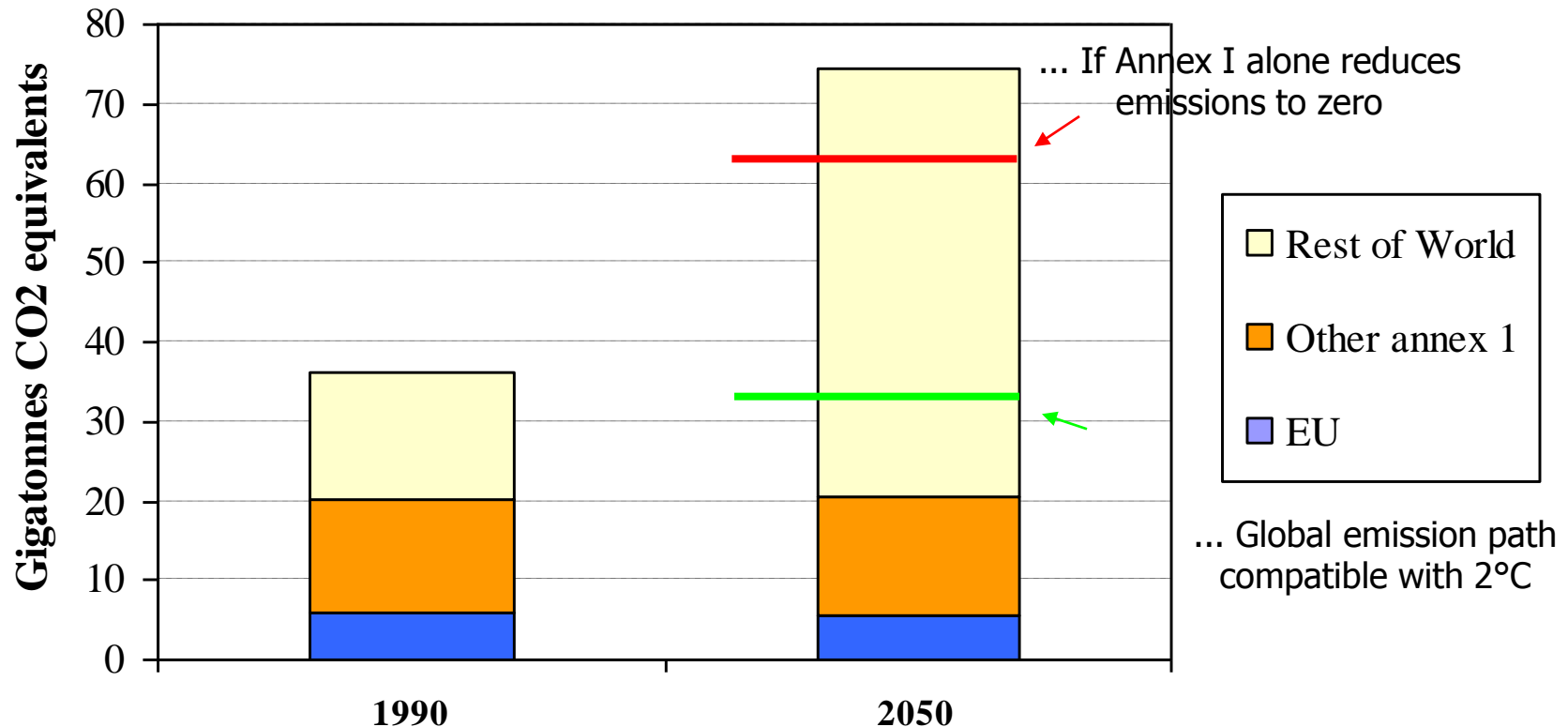


Energy demand and CO2 emissions in relation with GDP



EU alone can't solve climate change problem

Figure 1: Projected development of greenhouse gas emissions in different regions of the world



Source: Greenhouse gas reduction pathways in the UNFCCC process up to 2025, CNRS/LEPII-EPE, RIVM/MNP, ICCS-NTUA, CES-KUL (2003).

Some answers and outstanding issues

- Energy needs and Prices are growing up (invest, imports)
- Less dependency from fossil fuels on track
- The role of consumers in the market :actors or hostages?
- Where are the limits of liberalised market for private and public initiative?
- Does EU is able to speak with one voice for internationale energy relations?

Thank you for your kind attention !